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ABSTRACT

This chapter explores the pros and cons of Web-based instruction following the University of North Texas' decision to offer counseling courses on the Web. It seems that the most frequent arguments for Web-based instruction are its ability to reach students and its potential for course enrichment. The practice of providing live instruction on the Web that can be accessed by the student later for study also has great potential, and using the Web to access current resources is cited as one of the greatest advantages of the Web for instruction. However, there are drawbacks to Web-based instruction. There is nothing like live contact in counseling courses. The need for the counseling instructor to listen to verbal responses while assessing nonverbal responses has not been duplicated in Web courses. For counselor education, Web-based instruction will probably be second best to live instruction. This chapter also discusses developing Web courses. Issues covered include policies affecting Web course development and recommendations for preparing to develop a Web course. (MKA)

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Using the Web for Distance Learning

Michael K. Altekruse and Leah Brew

Student enrollment is a concern for most universities. Due to the increase in college enrollment and decreased state funding for higher education, many believe that on-line courses are a cost-effective means of meeting instructional demand (California Educational Technology Initiative, 1998; Starr, 1997).

The University of North Texas (UNT) administration began to encourage the use of distance education to increase student enrollment and to help meet present student demand for classes because the administration believed that using the web for instruction was a way to reach more students, could be more cost effective for many students, and could increase student enrollment. The administration also believed that other universities offering web-based courses might create competition for student enrollment and that the university needed to be a pioneer in this form of instruction.

Before the counselor education program faculty at UNT was willing to offer counseling courses on the web, however, they had to be convinced that web-based instruction offered methodology that was equal to or better than that available in the regular classroom. In short, could students learn as much through the web-based course as they could as students sitting in a traditional campus classroom? Although there is little research on web-based instruction, a study by Stocks and Freddolino (1998) has shown the on-line educational experience, as measured by grades, to be comparable to on-campus classes. Consistent with other findings

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(Keating & Hargitai, 1999), Internet students found the flexibility of the course a positive feature but the lack of face-to-face contact a negative feature.

ADVANTAGES AND UNIQUE FEATURES OF WEB COURSES

Before deciding to set up the program's first web course, advantages and disadvantages had to be weighed. Because web-based instruction was so new, many so-called advantages were based only on theory and conjecture. This chapter's authors investigated these hypotheses in their first course and developed a list of advantages and disadvantages of web instruction based on what they learned.

The belief that web-based instruction could reach more students and make education more accessible is still unproven, yet many advantages and unique features of web-based instruction were found to exist. One advantage is that students with access to the World Wide Web at home can explore exciting and diverse web sites without having to come to campus. In the comfort of their own home, they can also receive credit for many courses. They can use the web to conduct research at leading university library sites throughout the world including

- **the UNT University Library** (http://www.library.unt.edu/): The most obvious resource for supplying the information needs of students and faculty is their own university's library system. The physical forms of that collection are well known. Most faculty are skilled users and guides, but not all are familiar with gaining electronic access to these resources.
- **electronic journals:** This is a new medium. Some journals are only published on the web while other journals are published in hard copy and then placed on the web. Recent issues of the American Counseling Association's *Journal of Counseling and Development* are available to association members at http://www.counseling.org/journals/default.htm and an extensive listing of electronic journals and periodicals can be found at http://psych.hanover.edu/Krantz/journal.html#psychjournal.
- **gopherspace:** This is a way of navigating the net that has been popular since 1992. Its strengths are ease of navigation, index-

ing, and ease of downloading. Its chief weakness is that it handles images with great difficulty, and thus is limited mainly to text.

- **newsgroups (also known as Usenet):** These are the Internet equivalent of clubs or conversation groups. Their strength is size (many thousands of such groups exist), and their weakness is lack of focus.
- **the World Wide Web:** Booming in popularity since the introduction of Mosaic in 1993, the web offers easy access to images and sound (even motion pictures!) as well as text, and powerful links within documents to specific places in other documents. For example, many national organizations such as the American Counseling Association (http://www.counseling.org), the National Association of Social Workers (http://www.naswdc.org), and the American Psychological Association (http://www.apa.org) have web sites with information on purchasing books, accessing electronic journals, membership, and ethical guidelines.

Another advantage of using the web is the ability to provide links to materials elsewhere on the web. The user can point expressly to a specific resource or to pages that gather and organize a wide range of materials. This is an especially valuable way to get at nascent "libraries" on the World Wide Web where individuals have taken responsibility for keeping an eye out for materials in a specific field and keeping links to them up to date. An example may be seen on http://www.med.nyu.edu/Psych/src.psych.html, which is a page of Internet sources for mental health professionals. Another page that represents a nascent library and that is a source for counselor education syllabi is at http://coe.fgcu.edu/faculty/sabella/cerc/index.htm.

In the Dallas/Fort Worth metroplex, it is becoming more difficult for students to get to the University of North Texas campus. Internet and web courses are in great demand when distance from campus or ease of getting to campus is an issue. Courses that can be taken without a long drive are inviting to many students.

A web course can be straightforward, like a correspondence course on the web, or it can feature movies, live lectures, and endless links to various relevant sources. Only imagination and fi-

nances limit a developer. The more the web course can offer the student, the better. Both information and technology resources change so rapidly that new features can be added to the web page daily.

Features that can be utilized on the actual web-based course to increase the appeal of the course include

- **video:** Professors can create videos of themselves covering certain parts of a course, or existing videos can be integrated on to the web page for the student to view at his or her convenience.
- **CD ROMS:** CD ROMS can be integrated and linked from the web course to provide additional information or to provide audio and videos that are difficult to set up or view on some web pages.
- **interactive teaching:** Professors can provide live lectures while the students watch on their computers at home and can have icons representing each student to watch on their monitor. Students can interact with professors by letting the professor know when they have a question by using the icon. Professors can then call on students for questions and can provide individualized responses. Teachers can also ask questions and get responses from all students by utilizing the e-mail capacity during live teaching sessions.
- **audio:** This feature is especially beneficial when integrated with computer presentation software such as PowerPoint. It simulates a live lecture.
- **computer presentations:** Presentations that have already been created for class can be transferred as an additional form of media for the web class.
- **linking:** The ability to link to other sites that are relevant to the topic on the web class is easily integrated.
- **graphics:** Using graphics is a method for making the web class more interesting.
- **movies:** Movies that are part of other software packages or portions of existing videos can be added.
- **themes:** Visual artistic themes material, such as triangles to present new ideas or the color red to indicate important ideas, can make it easier for students to understand the flow of ideas.

Features for professors who make the use of the web to teach courses in counseling include

- **testing, auto-scoring, and grading:** Such programs as WebCT (Dabbagh & Schmidt, 1998) provide a testing program whereby tests taken by students are scored immediately for the students, and results are placed in the professor's electronic grade book.
- **scheduling test dates and times:** Tests can be taken anytime the student is ready or can be scheduled at a specific time and date.
- **test formats:** Tests can be in multiple choice, short answer, or essay form, and students can take the tests right on the net. In addition, tests can be developed to be power or timed tests.
- **test bank of questions:** The program can randomly select different questions for each student and place the questions in a different order.
- **student tracking:** The professor can determine how much time a student has spent on the web page and what they did on the page.
- **enrollment:** Student enrollment is more flexible.
- **travel:** No faculty travel is necessary, whereas in other forms of distance learning, travel is required. This also saves significant funds for the university.
- **multiple models:** Flexibility in how many interactions each professor wants to maintain on the web can be determined. For example, a professor can have no interaction with the student or can require a weekly chat room.

Features for the student provided by web-based courses include

- **practice tests:** Students can take practice tests that give immediate feedback with reasons why their answers are right or wrong.
- **unanswered test questions:** Students can review to see which questions were not answered during testing.
- **in-class e-mails:** An e-mail system is set up on the web page for all class members. They may communicate with each other or with the professor in this private e-mail system.
- **class chat rooms:** Different types of chat rooms are available for class members.

- **web calendar:** Calendars can be set up with due dates for papers and test dates so that the student can find out how much work is required at a glance.

DISADVANTAGES OF WEB COURSES

There are disadvantages of teaching over the web. Some courses are not appropriate for the web, such as most of the counseling courses that have a strong experiential component. However, some argue that most courses could be taught on the web, including such courses as counseling practicum, because it is possible to have live supervision on the web by using small cameras to see the student and the supervisor. The counseling videotape recording can then be reviewed, and the student and supervisor can see each other during the supervision process.

Other specific disadvantages include

- **technological failures:** For example, a student is unable to get into the course, the computer shuts down in the middle of the test, or the links are no longer hot. Of course, sometimes technological failures also happen when using technology in regular classroom teaching.
- **software upgrades:** Recently UNT upgraded WebCT to a new and better version. Problems caused by this change included totally changing quizzes so students had problems with access, grading the quizzes wrong, and providing the same questions more than once.
- **students cheating:** The developer has no idea who may be really taking the course. If a student wants to have someone else do the work, all he or she has to do is provide this person with any safeguards that have developed, including a password.
- **lack of human contact:** Even with a 100% web course, it is recommended that an instructor meet with his or her students at least once to show students how to use the web for maximum learning.
- **student motivation:** Students must completely rely on self-discipline to complete the coursework. As a result, the lead author of this chapter gives more incompletes for his web course than any other course he has taught.

- **boringness:** Web courses are often just not as interesting as experiencing an excellent live teacher.
- **home PC limitations:** Most web courses need the latest browsers and equipment to run well. Also, if the student has hardware problems on the day of testing, the student must have quick and easy access to an alternate computer or risk not taking the test.
- **course changes:** Web course changes are both costly and time consuming.
- **testing problems:** It is possible for students to miss clicking the answer and saving it, and never know the answer they chose was not saved unless they check their work. Also, when using timed tests, if an error occurs, the timer continues even if the student cannot.
- **writing tests:** This is difficult and time consuming for web courses.
- **link changes:** The only way to monitor link changes is when students discover they cannot use a link or go through a laborious process with a program like Front Page.

DEVELOPING A WEB CLASS

There are two kinds of information on the Internet that can be used in teaching: what already exists and what can be created. What is there already is what has been put on the web by various authors. It takes a little exploring to find what is out there and filter it for classroom use, and it takes a lot of work to prepare original materials for a web course.

Some professors develop a 100% web course. In such a course students may never see their instructor. All correspondence, assignments, activities, and requirements are guided through the web. An example of a 100% web course is the Ethical, Legal, and Professional Issues in Counseling course developed by the lead author of this chapter. This course is protected by the University of North Texas and can only be accessed through a user ID and password. Only students who register for the class are given a user ID and password.

A 100% web course requires a great deal of work in the development stage and constant monitoring and maintenance. In develop-

ing the ethics web course, it was necessary first to study all university policies regarding the use of the web for teaching. Because this was a pioneer effort, policies were being developed at the same time the course was being developed. Some of the original guidelines have since been changed, and the new policies actually make the process much easier.

Other course configurations may include a combination web course with required classroom attendance, a professor just using a page as resource for a class, and a web page with only a course syllabus. An example of a combination configuration is when instructors require the students to attend the first class (to show the students how to use the course on the Internet), the last class (to return any paperwork that may have been required), and each exam (to reduce the ability for students to cheat). The professor can also require the Internet class as an additional resource to the book and lectures. The web page with a course syllabus is best utilized to advertise class requirements so students can know in advance what to expect during the course.

Policies Affecting Web Course Development

Policies that affect the development of any kind of web course include those concerning

- **contact hours:** When the ethics course was first developed, the university required the same requirements for a web course as a regular on-campus course. Consequently, a course with 15 modules that required the student to spend 3 hours per module was developed. This met the university policy of 45 contact hours for this 3-semester-hour class. This is no longer a requirement.
- **software access:** Web page developers have a choice of software to use in their development of their course or they can use the web language, html. The ethics web course used software that translates to html that also aids in providing images and links. There are many programs to use, but many universities have adopted a standard that they expect most developers to use at that university. More help will be received if the software is compatible with the university. Presently the standard at UNT is Microsoft Front Page. The ethics page, originally developed with

Netscape Gold, was easy to convert to Front Page and then to continue its development with Front Page. Front Page has the advantage of easy development because it writes in a manner similar to Microsoft Word or PowerPoint.

- **university technological limitations:** A web course can be as sophisticated as the developer's imagination. However, the university may not have the equipment or the expertise to help to meet the developer's desires. For instance, the ability to stream video into the web page requires sophisticated equipment.
- **course management tool:** At the University of North Texas, the university has adopted Web CT as their course management tool because, at the time, it was the only course management tool developed by university instructors for Internet class instruction. What was developed in Front Page was transferred to WebCT. The course can be developed in Web CT. However, it requires expertise in html language. Tasks are required that must be developed on WebCT. WebCT is where quizzes and examinations are developed, and videos, audios, and all communications are incorporated. A developer must be familiar with the course management tool with all of its advantages and disadvantages before developing a course.
- **course ownership:** Who owns the course, the developer or the university, and can the professor take the course to a new university if he or she decides to leave? This is a question that may want to be answered before developing a course. The development of a course is a great deal of work.
- **effect on teaching load:** While developing the course, will the professor be given a reduced teaching load or graduate student help? Once the course is on-line with students, will this be part of the professor's teaching load? These are questions that may also need to be answered before beginning the development process. Maintenance of the course requires nearly as much time as a traditional course because of upgrades in equipment and software that create problems, constant removal of dead links, and constant searching of new links to add to the page.
- **graduate school policies:** At UNT, a student may not be able to take any course unless he or she has been admitted to the graduate school. Many potential students show an interest in

one of the ethics course, for example, but do not take the time to be admitted to graduate school.

Recommendations for Preparing to Develop a Web Course

If a decision has been made to develop a web course and preparation has been adequate for the development, the following recommendations may be helpful.

Learn More About Web Site Development

Books to learn how to develop a course for the web are available. However, the developer must be computer and web literate to learn all that is needed to know about web development through books. There are also sites on the web that teach web-page development and that include templates for page development. (See, for example, http://www.nevada.edu/~ces/webpage/weblearn.html.) The templates are good, but a site that uses them will not be unique and will not reflect the developer's personality.

What can be most helpful is to attend a course, workshop, or presentation on web development. Most universities usually offer courses for Front Page and other authoring programs. The lead author of this chapter has attended all web-related presentations at the American Counseling Association Annual Conference and has found most very helpful for obtaining new ideas.

Contribute to the Ongoing Development of a Web Site

Some universities provide web course developers for professors. The professor provides the material; the developer places it on the web. This is very helpful, but does not help in the continuing maintenance that is required for each page and that is best done by the person who knows the content of the page. Use the technician, but learn from him or her so that the page can be maintained after he or she moves on.

Search for Relevant Links to Course-Related Sources

The strengths of a web-based course include the tremendous resources available on-line that can be linked to the page. However, the search can be awkward and extremely time consuming. Keating and Hargitai (1999) have suggested a more efficient approach to re-

searching on the web. Because web searches are based on Boolean logic, which refers to the logical relationship among search terms and works on a process of inclusion, exclusion, and substitution, using the words *AND* and *NOT* between keywords will go a long way toward limiting a search. For example, *counselor education and supervision* will yield all pages listing these three nouns. *Counselor AND education NOT supervision* will yield only pages listing *counselor* and *education*. Many search engines now use implied Boolean plus (+) or minus (−) search operators to denote AND and NOT. Therefore, a query for the example just given will look something like this: +counselor+education−supervision. Quotation marks around proper names and exact titles will yield more exact results. A search for counselor education will yield results for counselor education, counselor, and education. A search for "counselor education" will only yield results for counselor education.

E-mail listservs such as CESNET (Counselor Education and Supervision Net) and ICN (International Counseling Network) are also great resources for web sources. Anyone can join these listservs by following these processes:

- For International Counseling Network, go to http://members.home.comruste/icn.html.
- For CESNET-L, which is an active listserv for counselor educators and supervisors, subscribe by sending a message to listserv@vm.sc.edu that says "subscribe CESNET-L" and includes your first and last names.

Contact Textbook Publishers

These publishers may have counselor education course material already developed to accompany their textbooks. Before choosing a textbook for a specific course, check to see what audiovisual material the publisher has for the course and if the publisher has developed anything for web-based learning. Publishers on-line include

Addison Wesley Longman;
Allyn & Bacon;
Archipelago;
Bedford, Freeman & Worth Publishing Group;
Cambridge Physics Outlet;

Course Technology;
Harcourt College;
John Wiley & Sons;
McGraw-Hill Ryerson;
Pearson Education;
Prentice Hall and Pearson Professional;
Reference and Technology Imprints;
South-Western College Publishing and Wadsworth Publishing;
Thomson Learning, including its publishing company, Brooks/Cole; and
W. W. Norton & Company.

Web sites that list books that can be purchased include

Accelerated Development (www.taylorandfrancis.com);
AGS (American Guidance Service) On-line Store (www.agsnet.com);
American Counseling Association (www.counseling.org) and (www.counseling.org/resources);
Brooks/Cole-Wadsworth Publishing Company (www.wadsworth.com);
Merrill Education (www.merrilleducation.com); and
Research Press (www.researchpress.com.)

Explore Course Design With Care

There are many choices for a course design. Remember that pages need to be attractive and inviting, that students need to feel good about the web page and the course, and that design goes a long way in setting a positive mental attitude. A criticism of the first UNT course on ethics was that it looked overwhelming. A student would look at one of the modules and either not sign up for the course or drop the course. In addition, meeting with each student was necessary before they began to explore how best to use the resources available. Books are available on web-based course design. Two of the best are *The Wired Professor* (Keating & Hargitai, 1999) and *Building Learning Communities in Cyberspace: Effective Strategies for the On-Line Classroom* (Palloff & Pratt, 1999).

CONCLUSION

It seems that that the most frequent arguments for web-based instruction are its ability to reach students and its potential for

course enrichment. The practice of providing live instruction on the web that can be accessed by the student later for study also has great potential. The use of the web to access current resources is cited as one of the greatest advantages of the web for instruction.

With all of the advantages of web-based instruction there are drawbacks, however. There is nothing like live contact in counseling courses. The need for the counseling instructor to listen to verbal responses while assessing nonverbal responses has not been duplicated in web courses. For counselor education, web-based instruction will probably always be second best to live instruction.

Note that new upgrades and new features are available today that were not available during the writing of this chapter. Therefore, it is important to keep up to date on technological advances.

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